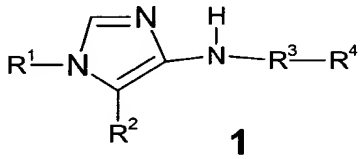
In the Claims:

The following is a complete Listing of all of the claims submitted in connection with the subject application, each listed claim having assigned thereto a United States Patent Office Status Identifier, as set forth in 37 CFR 1.121 revised by the United States Patent Office (Off. Gaz. Pat. Office (Feb. 25, 2003)). Please amend claims 1, 7, 12, 16, 18, and 29 as indicated in the following Listing:

Claim 1 (Currently Amended): A compound of the formula



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wherein R^1 is ~~a straight chain or branched (C_1-C_8)alkyl, a straight chain or branched (C_2-C_8)alkenyl, a straight chain or branched (C_2-C_8)alkynyl,~~ (C_3-C_8)cycloalkyl, (C_4-C_8)cycloalkenyl, ~~(3-8 membered) heterocycloalkyl,~~ (C_5-C_{11})bicycloalkyl, (C_7-C_{11})bicycloalkenyl, ~~(5-11 membered) heterobicycloalkyl,~~ or (C_6-C_{14}) aryl~~, or (5-14 membered) heteroaryl~~; and wherein R^1 is optionally substituted with from one to six substituents R^5 independently selected from F, Cl, Br, I, nitro, cyano, -CF_3, -NR^7R^8, -$NR^7C(=O)R^8$, -$NR^7C(=O)OR^8$, -$NR^7C(=O)NR^8R^9$, -$NR^7S(=O)_2R^8$, -$NR^7S(=O)_2NR^8R^9$, -OR^7, -$OC(=O)R^7$, -$OC(=O)OR^7$, -$C(=O)OR^7$, -$C(=O)R^7$, -$C(=O)NR^7R^8$, -$OC(=O)NR^7R^8$, -$OC(=O)SR^7$, -SR^7, -$S(=O)R^7$, -$S(=O)_2R^7$, -$S(=O)_2NR^7R^8$, -O-$S(=O)_2R^7$, -N_3, and R^7;

R^2 is H, F, -CH_3, -CN, or -$C(=O)OR^7$;

R^3 is -$C(=O)NR^9$-, -C(=O)O-, -$C(=O)(CR^{10}R^{11})_n$-, or -$(CR^{10}R^{11})_n$-;

R^4 is quinolyl ~~a straight chain or a branched (C_1-C_8)alkyl, a straight chain or a branched (C_2-C_8)alkenyl, a straight chain or branched (C_2-C_8 alkynyl), (C_3-C_8)cycloalkyl, (C_4-C_8)cycloalkenyl, (3-8 membered) heterocycloalkyl, (C_5-C_{11})bicycloalkyl, (C_7-C_{11})bicycloalkenyl, (5-11 membered) heterobicycloalkyl, (C_6-C_{14})aryl, or (5-14 membered) heteroaryl~~; and wherein R^4 is optionally substituted with from one to three substitutents R^6 independently selected from F, Cl, Br, I, nitro, cyano, -CF_3, -NR^7R^8, -$NR^7C(=O)R^8$, -$NR^7C(=O)OR^8$, -$NR^7C(=O)NR^8R^9$, -$NR^7S(=O)_2R^8$, -$NR^7S(=O)_2NR^8R^9$, -OR^7, -$OC(=O)R^7$, -$OC(=O)OR^7$, -$C(=O)OR^7$, -$C(=O)R^7$, -$C(=O)NR^7R^8$, -$OC(=O)NR^7R^8$, -$OC(=O)SR^7$, -SR^7, -$S(=O)R^7$, -$S(=O)_2R^7$, -$S(=O)_2NR^7R^8$, or R^7;

each R^7, R^8, and R^9 is independently selected from H, straight chain or branched

(C_1-C_8)alkyl, straight chain or branched (C_2-C_8)alkenyl, straight chain or branched (C_2-C_8 alkynyl), (C_3-C_8)cycloalkyl, (C_4-C_8)cycloalkenyl, ~~(3-8 membered) heterocycloalkyl,~~ (C_5-C_{11})bicycloalkyl, (C_7-C_{11})bicycloalkenyl, ~~(5-11 membered) heterobicycloalkyl,~~ and (C_6-C_{14})aryl, ~~and (5-14 membered) heteroaryl,~~ wherein R^7, R^8, and R^9 are each independently optionally substituted with from one to six substituents independently selected from F, Cl, Br, I, NO_2, -CN, $-CF_3$, $-NR^{10}R^{11}$, $-NR^{10}C(=O)R^{11}$, $-NR^{10}C(=O)OR^{11}$, $-NR^{10}C(=O)NR^{11}R^{12}$, $-NR^{10}S(=O)_2R^{11}$, $-NR^{10}S(=O)_2NR^{11}R^{12}$, $-OR^{10}$, $-OC(=O)R^{10}$, $-OC(=O)OR^{10}$, $-OC(=O)NR^{10}R^{11}$, $-OC(=O)SR^{10}$, $-SR^{10}$, $-S(=O)R^{10}$, $-S(=O)_2R^{10}$, $-S(=O)_2NR^{10}R^{11}$, $-C(=O)R^{10}$, $-C(=O)OR^{10}$, $-C(=O)NR^{10}R^{11}$, and R^{10};

~~or, when R^7 and R^8 are as in NR^7R^8, they may instead optionally be connected to form with the nitrogen of NR^7R^8 to which they are attached a heterocycloalkyl moiety of from three to seven ring members, said heterocycloalkyl moiety optionally comprising one or two further heteroatoms independently selected from N, O, and S;~~

each R^{10}, R^{11}, and R^{12} is independently selected from H, straight chain or branched (C_1-C_8)alkyl, straight chain or branched (C_2-C_8)alkenyl, straight chain or branched (C_2-C_8 alkynyl), (C_3-C_8)cycloalkyl, (C_4-C_8)cycloalkenyl, ~~(3-8 membered) heterocycloalkyl,~~ (C_5-C_{11})bicycloalkyl, (C_7-C_{11})bicycloalkenyl, ~~(5-11 membered) heterobicycloalkyl,~~ and (C_6-C_{14})aryl, ~~and (5-14 membered) heteroaryl,~~ wherein R^{10}, R^{11}, and R^{12} are each independently optionally substituted with from one to six substituents independently selected from F, Cl, Br, I, $-NO_2$, -CN, $-CF_3$, $-NR^{13}R^{14}$, $-NR^{13}C(=O)R^{14}$, $-NR^{13}C(=O)OR^{14}$, $-NR^{13}C(=O)NR^{14}R^{15}$, $-NR^{13}S(=O)_2R^{14}$, $-NR^{13}S(=O)_2NR^{14}R^{15}$, $-OR^{13}$, $-OC(=O)R^{13}$, $-OC(=O)OR^{13}$, $-OC(=O)NR^{13}R^{14}$, $-OC(=O)SR^{13}$, $-SR^{13}$, $-S(=O)R^{13}$, $-S(=O)_2R^{13}$, $-S(=O)_2NR^{13}R^{14}$, $-C(=O)R^{13}$, $-C(=O)OR^{13}$, $-C(=O)NR^{13}R^{14}$, and R^{13};

each R^{13}, R^{14}, and R^{15} is independently selected from H, straight chain or branched (C_1-C_8)alkyl, straight chain or branched (C_2-C_8)alkenyl, straight chain or branched (C_2-C_8 alkynyl), (C_3-C_8)cycloalkyl, (C_4-C_8)cycloalkenyl, ~~(3-8 membered) heterocycloalkyl,~~ (C_5-C_{11})bicycloalkyl, (C_7-C_{11})bicycloalkenyl, ~~(5-11 membered) heterobicycloalkyl,~~ and (C_6-C_{14})aryl, ~~and (5-14 membered) heteroaryl,~~ wherein R^{13}, R^{14}, and R^{15} are each independently optionally substituted with from one to six substituents independently selected from F, Cl, Br, I, $-NO_2$, -CN, $-CF_3$, $-NR^{16}R^{17}$, $-NR^{16}C(=O)R^{17}$, $-NR^{16}C(=O)OR^{17}$, $-NR^{16}C(=O)NR^{17}R^{18}$, $-NR^{16}S(=O)_2R^{17}$, $-NR^{16}S(=O)_2NR^{17}R^{18}$, $-OR^{16}$, $-OC(=O)R^{16}$, $-OC(=O)OR^{16}$, $-OC(=O)NR^{16}R^{17}$, $-OC(=O)SR^{16}$, $-SR^{16}$, $-S(=O)R^{16}$, $-S(=O)_2R^{16}$,

$-S(=O)_2NR^{16}R^{17}$, $-C(=O)R^{16}$, $-C(=O)OR^{16}$, $-C(=O)NR^{16}R^{17}$, and R^{16};

each R^{16}, R^{17}, and R^{18} is independently selected from H, straight chain or branched $(C_1\text{-}C_8)$alkyl, straight chain or branched $(C_2\text{-}C_8)$alkenyl, straight chain or branched $(C_2\text{-}C_8$ alkynyl), $(C_3\text{-}C_8)$cycloalkyl, $(C_4\text{-}C_8)$cycloalkenyl, ~~(3-8 membered) heterocycloalkyl,~~ $(C_5\text{-}C_{11})$bicycloalkyl, $(C_7\text{-}C_{11})$bicycloalkenyl, ~~(5-11 membered) heterobicycloalkyl,~~ and $(C_6\text{-}C_{13})$aryl~~, and (5-12 membered) heteroaryl~~;

n is 0, 1, 2, or 3;

wherein R^{10} and R^{11} in $-C(=O)(CR^{10}R^{11})_n-$ and $-(CR^{10}R^{11})_n-$ are for each iteration of n defined independently as recited above;

or a pharmaceutically acceptable salt thereof.

Claim 2 (Original): A compound according to claim 1, wherein R^3 is $-C(=O)NH-$ or $-C(=O)(CR^{10}R^{11})_n-$.

Claim 3 (Original): A compound according to claim 2, wherein R^{10} and R^{11} are at each iteration of n both hydrogen.

Claim 4 (Original): A compound according to claim 1, wherein R^1 is optionally substituted $(C_3\text{-}C_8)$cycloalkyl or optionally substituted $(C_5\text{-}C_{11})$ bicycloalkyl.

Claim 5 (Original): A compound according to claim 4, wherein R^1 is cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, or norbornyl, each optionally substituted.

Claim 6 (Original): A compound according to claim 5, wherein R^1 is optionally substituted with from one to three substituents independently selected from F, Cl, Br, I, nitro, cyano, $-CF_3$, $-NR^7R^8$, $-NR^7C(=O)R^8$, $-OR^7$, $-C(=O)OR^7$, $-C(=O)R^7$, and R^7.

Claim 7 (Currently Amended): A compound according to claim 4, wherein R^1 is substituted with $NR^7C(=O)R^8$~~;~~ or $(C_6\text{-}C_{14})$aryl, ~~(3-8 membered) heterocycloalkyl, or (5-14 membered) heteroaryl,~~ and wherein said aryl~~, heterocycloalkyl, and heteroaryl are each~~ is optionally substituted with from one to six substituents independently selected from F, Cl, Br, I, $-NO_2$, -CN, $-CF_3$, $-NR^{10}R^{11}$, $-NR^{10}C(=O)R^{11}$, $-NR^{10}C(=O)OR^{11}$, $-NR^{10}C(=O)NR^{11}R^{12}$, $-NR^{10}S(=O)_2R^{11}$, $-NR^{10}S(=O)_2NR^{11}R^{12}$, $-OR^{10}$, $-OC(=O)R^{10}$, $-OC(=O)OR^{10}$, $-OC(=O)NR^{10}R^{11}$, $-OC(=O)SR^{10}$, $-SR^{10}$, $-S(=O)R^{10}$, $-S(=O)_2R^{10}$, $-S(=O)_2NR^{10}R^{11}$, $-C(=O)R^{10}$, $-C(=O)OR^{10}$, $-C(=O)NR^{10}R^{11}$, and R^{10}.

Claim 8 (Original): A compound according to claim 4, wherein R^1 is optionally substituted bicyclo-[3.1.0]-hexyl.

Claim 9 (Cancelled)

Claim 10 (Cancelled)

Claim 11 (Cancelled)

Claim 12 (Currently Amended): A compound according to claim 9, wherein R^4 is ~~naphthyl,~~ quinolyl, ~~or isoquinolyl, each~~ optionally substituted.

Claim 13 (Original): A compound according to claim 12, wherein R^4 is unsubstituted.

Claim 14 (Original): A compound according to claim 1, wherein R^2 is hydrogen.

Claim 15 (Cancelled)

Claim 16 (Currently Amended): A compound of claim 1, selected from the group consisting of:

N-(1-cyclobutyl-1H-imidazol-4-yl)-2-quinolin-6-yl-acetamide;

~~*N*-(1-cyclopentyl-1H-imidazol-4-yl)-2-(4-methoxy-phenyl)-acetamide;~~

N-[1-(*cis*-3-phenyl-cyclobutyl)-1H-imidazol-4-yl]-2-quinolin-6-yl-acetamide;

~~(1-cyclobutyl-1H-imidazol-4-yl)-carbamic acid phenyl ester;~~

1-(1-cyclobutyl-1H-imidazol-4-yl)-3-isoquinolin-5-yl-urea;

~~*N*-[1-(*cis*-3-amino-cyclobutyl)-1H-imidazol-4-yl]-2-naphthalen-1-yl-acetamide;~~

~~6-methyl-pyridine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~1H-imidazole-4-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~6-hydroxy-pyridine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~3-methyl-pyridine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~2-pyridin-3-yl-thiazole-4-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~6-{*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutylcarbamoyl}-nicotinic acid methyl ester;~~

~~pyrazine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~N-{*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-benzamide;~~

~~5-methyl-pyrazine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~N-{*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-isobutyramide;~~

~~6-chloro-pyridine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

quinoline-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;

~~1H-pyrrole-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~N-{*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-2-m-tolyl-acetamide;~~

~~pyridine-2-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide;~~

~~2-(3-hydroxy-phenyl)-N-{*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-acetamide;~~

~~piperidine-4-carboxylic acid {*cis*-3-[4-(2-naphthalen-1-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide hydrochloride;~~

~~N-[1-(*cis*-3-acetylamino-cyclobutyl)-1H-imidazol-4-yl]-2-naphthalen-2-yl-acetamide;~~

N-{*cis*-3-[4-(2-isoquinolin-5-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-benzamide; and

pyridine-2-carboxylic acid {*cis*-3-[4-(2-isoquinolin-5-yl-acetylamino)-imidazol-1-yl]-cyclobutyl}-amide; and

pharmaceutically acceptable salts of the foregoing compounds.

Claim 17 (Original): A pharmaceutical composition for treating a) a disease or condition comprising abnormal cell growth; b) a neurodegenerative disease or condition; or c) a disease or condition the treatment of which can be effected or facilitated by inhibiting GSK-3, in a mammal comprising a compound of claim 1 in an amount effective in treating said disease or condition, and a pharmaceutically acceptable carrier.

Claim 18 (Currently Amended): A pharmaceutical composition for treating a disease or condition the treatment of which can be effected or facilitated by altering

dopamine mediated neurotransmission in a mammal comprising a ~~cdk5 inhibitor~~ compound according to claim 1 in an amount effective in treating said disease or condition and a pharmaceutically acceptable carrier.

Claim 19 (Cancelled)

Claim 20 (Original): A pharmaceutical composition according to claim 18 wherein the disease or condition is selected from Parkinson's disease, schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, substance-induced psychotic disorder, personality disorder of the paranoid type, personality disorder of the schizoid type, drug addiction, drug withdrawal, obsessive compulsive disorder, Tourette's syndrome, depression, a mood episode, post-stroke depression, major depressive disorder, dysthymic disorder, minor depressive disorder, premenstrual dysphoric disorder, post-psychotic depressive disorder of schizophrenia, a major depressive disorder superimposed on a psychotic disorder such as delusional disorder or schizophrenia, a bipolar disorder, anxiety; attention deficit and hyperactivity disorder; and attention deficit disorder.

Claim 21 (Original): A method for treating a disease or condition comprising abnormal cell growth in a mammal comprising administering to the mammal a compound of claim 1 in an amount effective in inhibiting abnormal cell growth.

Claim 22 (Original): A method according to claim 21, wherein the disease or condition comprising abnormal cell growth is cancer.

Claim 23 (Original): A method according to claim 21, for treating a disease or condition comprising abnormal cell growth in a mammal, wherein the disease or condition is selected from benign prostate hyperplasia, familial adenomatosis polyposis, neuro-fibromatosis, atherosclerosis, pulmonary fibrosis, arthritis, psoriasis, glomerulonephritis, restenosis, hypertrophic scar formation, inflammatory bowel disease, transplantation rejection, fungal infection, and endotoxic shock.

Claim 24 (Original): A method for treating a diseases or condition comprising abnormal cell growth in a mammal comprising administering to the mammal a compound of claim 1 in an amount effective to inhibit cdk2 activity.

Claim 25 (Original): A method according to claim 24, wherein the disease or condition comprising abnormal cell growth is cancer.

Claim 26 (Original): A method according to claim 24, for treating a disease or condition comprising abnormal cell growth in a mammal, wherein the disease or condition is

selected from benign prostate hyperplasia, familial adenomatosis polyposis, neuro-fibromatosis, atherosclerosis, pulmonary fibrosis, arthritis, psoriasis, glomerulonephritis, restenosis, hypertrophic scar formation, inflammatory bowel disease, transplantation rejection, fungal infection, and endotoxic shock.

Claim 27 (Original): A method for treating a neurodegenerative disease or condition in a mammal comprising administering to the mammal a compound of claim 1 in an amount effective in treating said disease or condition.

Claim 28 (Original): A method according to claim 27 wherein the neurodegenerative disease or condition is selected from Huntington's disease, stroke, spinal cord trauma, traumatic brain injury, multiinfarct dementia, epilepsy, amyotrophic lateral sclerosis, pain, viral induced dementia for example AIDS induced dementia, neurodegeneration associated with bacterial infection, migraine, hypoglycemia, urinary incontinece, brain ischemia, multiple sclerosis, Alzheimer's disease, senile dementia of the Alzheimer's type, mild cognitive impairment, age-related cognitive decline, emesis, corticobasal degeneration, dementia pugilistica, Down's syndrome, myotonic dystrophy, Niemann-Pick disease, Pick's disease, prion disease with tangles, progessive supranuclear palsy, lower lateral sclerosis, and subacute sclerosing panencephalistis.

Claims 29 (Currently Amended): A method for treating a disease or condition the treatment of which can be effected or facilitated by altering dopamine mediated neurotransmission in a mammal comprising administering to the mammal a ~~cdk5 inhibitor~~ compound according to claim 1 in an amount effective in treating said disease or condition.

Claim 30 (Original): A method according to claim 29 wherein the disease or condition is selected from Parkinson's disease, schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, substance-induced psychotic disorder, personality disorder of the paranoid type, personality disorder of the schizoid type, drug addiction, drug withdrawal, obsessive compulsive disorder, Tourette's syndrome, depression, a mood episode, post-stroke depression, major depressive disorder, dysthymic disorder, minor depressive disorder, premenstrual dysphoric disorder, post-psychotic depressive disorder of schizophrenia, a major depressive disorder superimposed on a psychotic disorder such as delusional disorder or schizophrenia, a bipolar disorder, anxiety; attention deficit and hyperactivity disorder; and attention deficit disorder.

Claim 31 (Cancelled)

Claim 32 (Original): A method for treating in a mammal a disease or condition selected from male fertility and sperm motility; diabetes mellitus; impaired glucose tolerance; metabolic syndrome or syndrome X; polycystic ovary syndrome; adipogenesis and obesity; myogenesis and frailty, for example age-related decline in physical performance; acute sarcopenia, for example muscle atrophy and/or cachexia associated with burns, bed rest, limb immobilization, or major thoracic, abdominal, and/or orthopedic surgery; sepsis; hair loss, hair thinning, and balding; and immunodeficiency; which method comprises administering to said mammal an amount of a compound according to claim 1 effective in treating said disease or condition.

Claim 33 (Original): A method for inhibiting GSK-3 in a mammal, which method comprises administering to said mammal an amount of a compound according to claim 1 effective in inhibiting GSK-3.

Claims 34-57 (Cancelled)